

SIERRA
SCIENTIFIC
CORPORATION

Aug 77

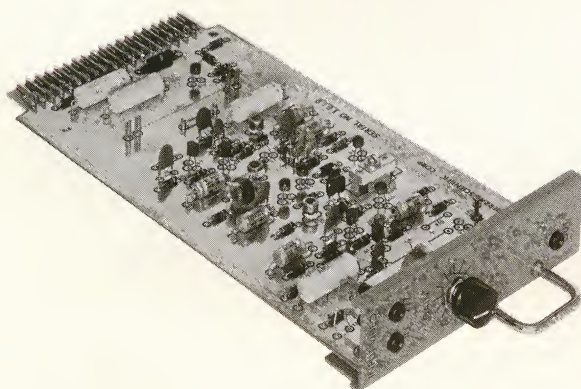
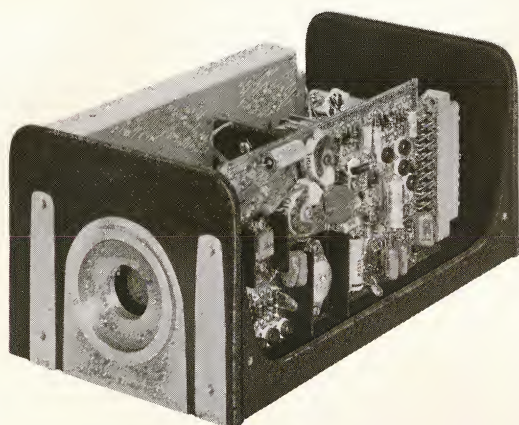
VIDEO STANDARD TELEVISION CAMERAS



Model LSV-1 Configuration 100A

Variable
scan rate.

- ☐ Multiple line rate sync generator—all EIA RS-330/343 rates plus many others
- ☐ High-resolution vidicon tube—Sb₂S₃ target, all magnetic
- ☐ 30 MHz preamplifier, 4 nanoamperes rms typical input noise
- ☐ Voltage-limited automatic target control—3000 to 1 sensitivity range, protects vidicon from burns, switchable to manual
- ☐ High-voltage vidicon operating mode, 60 Gauss focus field
- ☐ Adapter for "C"-mount lenses—rear panel mechanical focus for close-ups
- ☐ One per cent geometry (EIA)—linearized flyback horizontal sweep, low-distortion yoke
- ☐ True DC video output, keyed clamp, blanking level fixed at 0 VDC



Here is the perfect general-purpose camera. Its low-noise, trans-impedance preamp with high-performance vidicon delivers the highest signal-to-noise ratio available.

With wide scene dynamic range, it easily reproduces the 10-step EIA logarithmic gray scale. Both horizontal and vertical sweep failure protection guards the vidicon from failure burns. In addition, line rates can be changed in minutes, and color rendition is excellent because the LSV-1 has a spectral sensitivity equal to the human eye. Because the preamp comes in a shielded can, the unit operates perfectly with cover off.

Quality components used throughout operate far below their capacity ratings, insuring long-life dependability.

Coils, not magnets, are provided for tube alignment, and all controls are positioned on the front of the remote control unit for easy access. There are no controls on the camera head. The eight modules on the control unit include power supply, camera controls, vertical sweep, input video, output video, oscillator-counter, sync former and two spare positions for any other special video processing circuitry. An external cathode blanking input is included for integration on vidicon target.

Constant regulated DC voltage eliminates hum pickup and permits use of various cable lengths. Because the filament supply is voltage regulated and mounted in the camera head, tubes of different filament current requirements may be used. All connectors, video and sync, are UHF for increased reliability—and the camera cable is manufactured for Sierra to its own specifications.

With its PC motherboard, the LSV-1's advanced thermal design and reliable modular construction make maintenance easy. Extender card is included and all cards can be inserted or removed without power shutdown. The vidicon carriage locks down for increased mechanical stability.

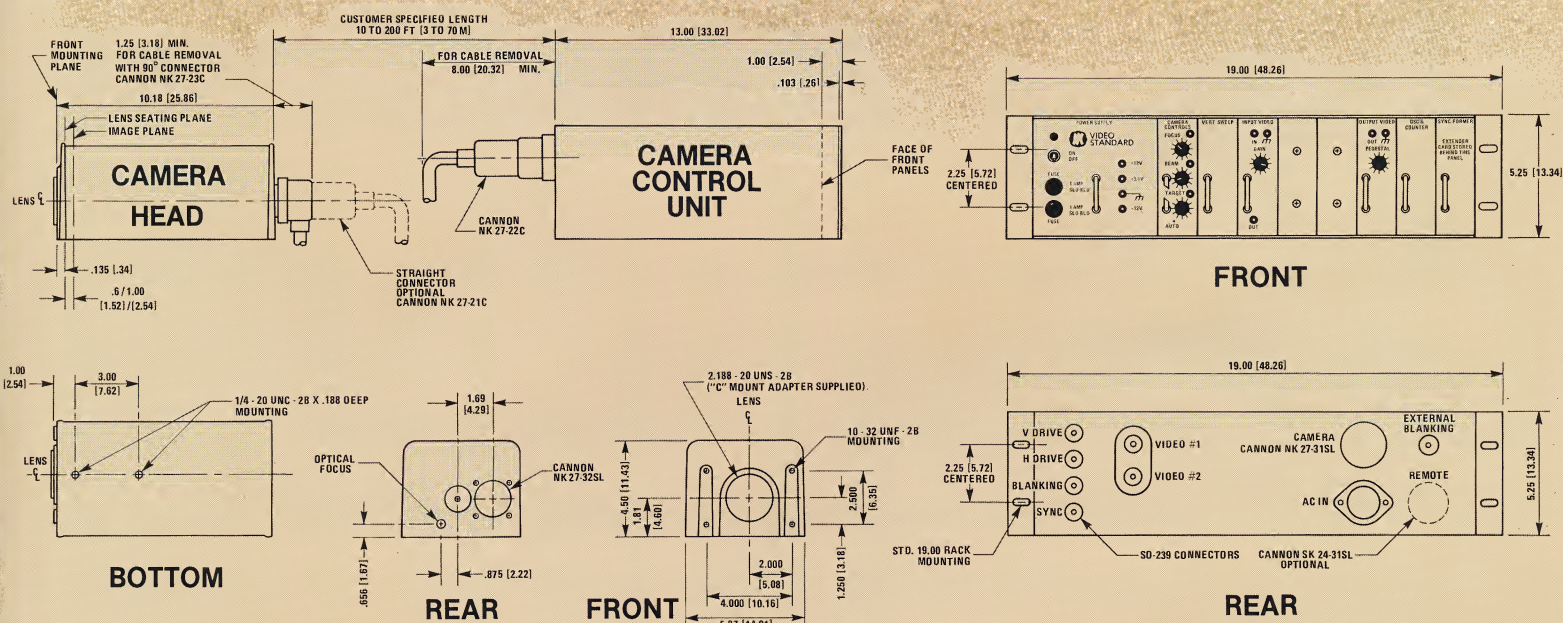
All modules are the plug-in variety—made of rugged glass epoxy. Each camera undergoes a 100-hour burn-in with 24-hour, heat tank cycling. A one-year warranty (except on vidicon) is standard on all parts and labor.

SPECIFICATIONS*

Front Panel Controls	Electrostatic focus (G3 voltage); beam current (G1 voltage); target voltage/ATC switch; video gain; pedestal; test points for: +12, -12, +3.6, focus, beam, target, preamp video, processed video, output video.
Internal Controls	Alignment (2); electromagnetic focus; mesh voltage; H size; H center; V size; V center; tube and cable compensation (2); video gain preset; aperture correction level; sync level; clamp delay; all sync generator delays and pulse widths.
Outputs	All 75 ohm sending-end terminated; video (2): 1.4v peak-to-peak with sync, dc coupled, blanking at ground; H drive, V drive, mixed blanking, composite sync: 4v peak-to-peak negative-going, dc coupled, base line at ground.
Geometry	EIA combined linearity and geometric distortion — 1% maximum.
Shading	Less than 10% peak-to-peak over the central 90% of the picture area, 20% overall.
Resolution	At all line rates: 1000 TV lines horizontal center, .7x number of scan lines vertical center, 600 TV lines horizontal corner, .5x number of scan lines vertical corner.
Scan Rates Available	Any rate in the range: Vertical frequency 15 Hz to 120 Hz; horizontal frequency 15 KHz to 40 KHz; 2:1 interlace or sequential scan; lines per frame (useful range) 256 to 1536; all EIA rates (525, 675, 729, 975, 945, 1023 lines/ 60 frames per second/ 2:1 interlace).

*Since we are constantly striving to advance the state of the art, we reserve the right to make specification changes which we believe will result in significant product improvements.

Signal-To-Noise Ratio	40 db minimum (43 db typical) with 600 nanoamperes peak-to-peak signal current.
Auto Target Range	400 nanoamperes of signal current from below 1 footcandle to above 1000 candles faceplate illuminance. 100 nanoamperes of signal current from below .1 footcandles to above 1000 footcandles. Video level is measured by a "soft" peak detector. Full range adjustment time (excluding target stabilization time) .5 sec.
Temperature Stability	Deviation from room temperature (22°C) setup value over 0° to 55°C range: V size, V center, H center — 1% max; H size — 2% max; Resolution — 50 lines max; Blanking level — 20 millivolts max; Video level* — 1% max; Pedestal* — 20 millivolts max. * Excluding vidicon sensitivity and dark current change.
Environmental Tolerance	Temperature: 0°C to +55°C operating, -20°C to +85°C non-operating. Altitude: 15,000 ft. operating, 50,000 ft. non-operating. Humidity: 95% non-condensing. Vibration: Normal handling, shipping and industrial operating environments; limited by vidicon microphonics.
Power Requirement	90-140/180-280 VAC, 50/50/400Hz strappable; 100-125 VAC, 60Hz for USA; 75 watts max, 50 watts typical.



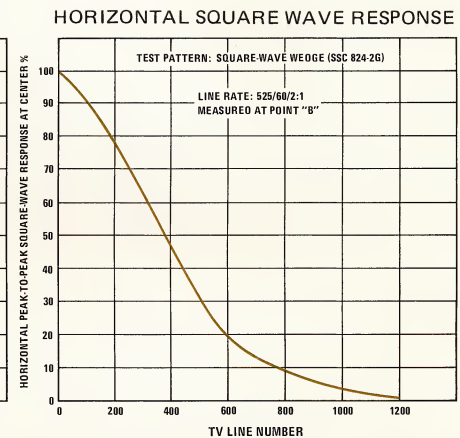
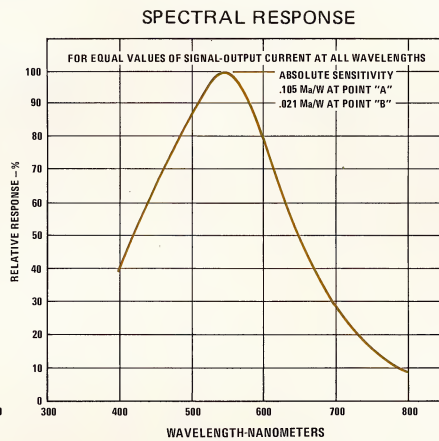
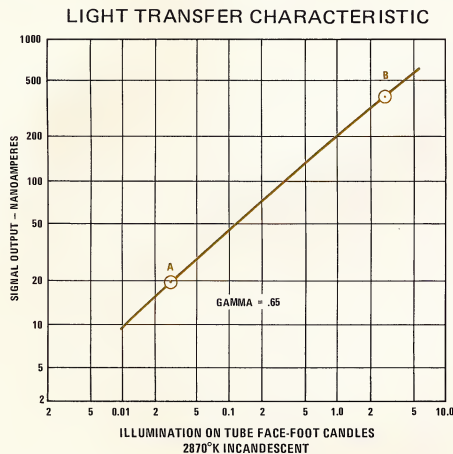
MECHANICAL

	Height	Width	Depth	Weight
Camera Head	4 5/8" 11.8 cm	5 1/8" 13.0 cm	10 1/8" 25.7 cm	8 lb. 17.6 Kg
Camera Control Unit	5 1/4" 13.3 cm	19" 48.3 cm	13" (excluding connectors) 33.0 cm	22 lb. 48.4 Kg
Cable *	5/8" dia. 1.59 cm			6 1/2 lb. (25') 14.3 Kg (7.6 m)
Connectors	1 3/4" dia. maximum, straight end. 4.4 cm			

*Minimum bend radius 2 1/2"
6.4 cm

2 spare conductors AWG 22

PERFORMANCE CURVES (TYPICAL)



NOTE: ALL CURVES TAKEN WITH TARGET VOLTAGE SET FOR 20 NANOAMPERES DARK CURRENT

CONFIGURATION 100A INCLUDES . . .

1105	Camera Control Unit
2001	Camera Head
3000	Camera Cable 25' (Change to 3010 for straight camera head connector)
7000	Sync Generator Set
9000	Vidicon, Type 8541A
TOTAL	
\$4505	

Your inquiries regarding any of the equipment we make are welcome. Feel free at any time to call us or our representatives in your area to discuss your camera needs and applications.

Prices quoted herein are subject to change without notice.

OTHER SIERRA CAMERAS AND OPTIONS

Configuration 100A incorporates one standard camera and set of options. Sierra makes numerous television camera models both for normal and low-light-level environments. More than 100 options are available including:

- RS-170 EIA Broadcast Sync
- Plug-in Bandwidth Shaping Filters
- Auto Black Level Adjustment
- Shading Correction Circuitry
- Auto Gain Control
- Video Polarity Reversal
- Sweep Reversal
- Hinged, Locked Front Panel
- Remote Controls Of Target, Focus Beam, Pedestal, Gain, Polarity.



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